REMARKS

The Examiner has continued to allege that the claims as on file are obvious in light of U.S. Patent No. 6,567,422 to Takeguchi. It is respectfully submitted that the Examiner's interpretation of the claims and of the prior art document is incorrect, as discussed below.

The crux of the presently-claimed invention is that the network element (NE) determines a Quality Level Indicator (QLI) transmitted by the NE with a clocked signal based on a source identifier (SID) associated with the input port on which the clock signal is output by the NE. The SID is indicative of the input port on which the clock signal that is transmitted by the NE was received. The SID of each input port is set (by a central management means) to the NE identifier (NEID) of the NE to which the input port is connected.

In the relevant disclosure of Takeguchi, the NEID of the NE transmitting a clock signal is transmitted along with the relevant QLI. A timing source identifier (SID) is identified at col. 7, line 67 to col. 8, line 13. However, it is to be noted that the SID of Takeguchi is not a SID as claimed in the present application. Claim 15 requires that the SID identifies the input port at which the relevant clock signal is received. The SID of Takeguchi is indicative not of the port on which the clock signal is received, but of the source of the clock signal. This can be seen, for example, with NE 10d of Fig. 9, where the clock signals incident on both input ports of the NE have the same SID of 001.

It can therefore be seen that the input ports of the NEs of Takeguchi do not have SIDs associated with them. The signals that they receive may contain data as regards the ID of the NE that transmitted them. However, this is not the same thing, and indeed is to be avoided. By making each input port of each NE "know" what NE (the input NE) that input port is connected to, the NE can ensure that any clock signal originating from the input NE sent back to the input NE has a QLI of

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"do not use" (NDU) without requiring the input NE to send any extra data. No changes are required to the standard SDH/SONET transmission protocols, which allows NEs according to the claimed invention to be used with NEs not complying with the present invention; the NEs according to the present invention will still be able to reliably set the QLI indicator without any changes to the data stream, while prior art NEs can be used without any modification. Furthermore, the fact that no changes are required to the data stream means that NEs from different operators can interoperate simply as the operation is still within the relevant standard.

In distinction, Takeguchi requires that the NEID of one NE transmitting to another NE be transmitted along with the clock and QLI data. The SID of the present claim is therefore not associated with the input port, but with the signal incident on a port. Also, the NEID thus received is not received from the central management means, but from another NE. Transmittal of the NEID by each NE requires further data to be transmitted over that required by standard, and could hence lead to divergent operation by different manufacturers. Furthermore, for one NE to be able to correctly set the QLI, the NE transmitting to that port must correctly transmit its NEID, which is not required by the present invention.

Accordingly, Takeguchi does not disclose a NE with input ports having SIDs set to the NEID of the NE to which the input port is connected. Neither does it disclose setting the SIDs of the input ports by a central management means.

The Examiner also alleges that the use of SIDs in Takeguchi renders the use of NEIDs as SIDs obvious. Applicant submits that this is incorrect on a number of grounds. Firstly, as discussed above, the SIDs of Takeguchi are not SIDs as claimed. The SIDs in Takeguchi indicate the initial source of the clock signal, that is, which clock generated the signal. They are not, as is required by the main claim, indicative of the input port at which a signal is received.

Notwithstanding any other of these comments, the Examiner is therefore wrong on page 3, lines 13-14 of the Office Action in that the status message sent from an NE comprises the SID of that NE; it comprises the SID of the source of the clock signal.

Secondly, while Takeguchi is concerned with timing loops, it is not concerned with timing loops caused by connecting the same pair of NEs by more than one bi-directional link. Note how the topology of all of the examples is a simple loop where each NE is connected to the next by a single bi-directional link. There can be no impetus to solve the problem disclosed in the present application if there is no appreciation of the problem. The problems caused by multiple connections between NEs would still exist if the SIDs of Takeguchi were used; the SID is only used by the master NE (the "GNE" in Takeguchi) to determine when the clock signal it has passed out has returned to it. If any two NEs not being the GNE were multiply-connected, then a timing loop could still exist.

Applicant also respectfully questions the Examiner's statement that "it would have been obvious to, in order to eliminate possible timing loop issue, a unique source identifier for each NE must be used so that each NE uses a different clock signal". Firstly, this is simply a bald assertion, and Applicant asks that the Examiner substantiate it. Secondly, each NE having a different clock signal is highly undesirable. It is desirable that the most reliable clock signals circulate through the network.

The Examiner's allegation that it is obvious to use the NEID as a SID is therefore not made out.

Accordingly, applicant submits that the Examiner's rejection of the claims on the grounds of obviousness is unfounded on the following bases:

- Takeguchi does not disclose each input port of each NE having associated therewith an SID indicative of the NE connected to that port;

- Takeguchi does not disclose the SID of each input port being set to the NEID of the NE connected to that port, nor to the SID being set to that NEID by the central management means; and

- The Examiner's explanation of why it would be obvious to set the SID to be the NEID is flawed in light of the fact that the SID in Takeguchi is not indicative of the NE connected to the relevant input port and so could not achieve the removal of timing loops due to multiple connections between NEs; the Examiner has not suggested why doing so would be obvious, not provided any evidence why this is the case.

Applicant therefore submits that the claims as on file are novel, non-obvious and therefore allowable.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

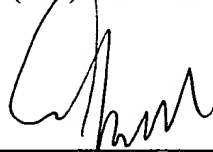KIRSCHSTEIN, OTTINGER, ISRAEL & SCHIFFMILLER, P.C.
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